

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. The specification exceeds the length of 20 pages and is therefore considered to be lengthy.

Claim Objections

2. Claims 4, 10 and 16 are objected to because of the following informalities: The phrase "the elastic member include" should be changed to -the elastic member includes- or -the elastic members include-. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 8, 13 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed "hollows" are only mentioned seven times in the specification with no real definition or explanation following thereafter other than to state that they are part of instant invention. The drawings (particularly figures 11A-B) fail to afford any new

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insight into enabling the creation of said hollows and furthermore it is recognized by the examiner that the term "hollows" is not common terminology in the field of disposable wearing articles so as such the terminology should be accompanied by a description to properly enable the production thereof. For examination purposes the examiner interprets the term "hollows" to be the grooves (indentations) within the length of the absorber.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8, 13 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In light of the ambiguity surrounding the termed "hollows" it is unclear to the examiner as to what the applicant is distinctly claiming.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-5, 9-11, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachibana et al. (US 2002/0046802 A1) in view of Igaue et al. (US 5,858,151).

Regarding claim 1, Tachibana et al. discloses a method of manufacturing a disposable worn article (i.e. disposable diapers or underpants) whereby an adhesive is used to sandwich an elastic member between a first and second web (abstract). It is further taught that the elastic member is stretched longitudinally in the direction of the webs (figure 1). Tachibana et al. further discloses reducing the shrinking force of the elastic member through various means including melting ([0006]), cutting ([0008]), or embossing ([0009]). The teachings further provide that the shrink force reducing methods (i.e. melting, cutting or embossing) are applied to predetermined areas where it is preferred that the underpants do not shrink ([0033]). Tachiba et al. further discloses

that the predetermined area of reduced shrinking force may contain an absorber (figure 2C, reference 163; [0033]).

Tachiba et al. fails to disclose the manufacturing method of halving the elastic strip material in the widthwise direction so that protrusions and recesses alternately appear and separating the halved strips prior to attaching an absorber at the positions on the elastic strips where the shrinking force had been reduced.

Igaue et al. teaches a process of manufacturing a sheet member (i.e. elastic strip) for forming part of a disposable garment whereby a larger sheet is cut by a continuous concavo-convex cutting line (i.e. halving) to produce two sheets (figure 3A; abstract) and the sheets are further separated from each other (figure 3B).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the teachings of Tachibana et al. to further include utilizing a manufacturing method of cutting a larger elastic strip with a continuous concavo-convex cutting line to produce two elastic strips in view of Igaue et al. because it was known that such a method of cutting yields no waste and would therefore reduce manufacturing cost. (Abstract).

Regarding claim 2, the method of claim 1 is disclosed as seen above. Furthermore, as discussed above Tachiba et al. discloses that the predetermined area of reduced shrinking force may contain an absorber (figure 2C, reference 163; [0033]). It is recognized by the examiner that as exemplified by the drawings of Tachiba et al., the predetermined area of reduced shrinking force extends across the crotch region (figure 2C).

Tachibana et al. fails to disclose that the halved elastic strip members are brought into phase after separating and further fails to teach that the predetermined area (reduced shrinking force) are the protrusions of the elastic strip materials.

Igaue et al. teaches that following cutting (figure 3A) and separation (figure 3B), the halved strip members are brought into phase (figure 3C).

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Tachibana et al. to include bringing the separated elastic strip members into phase in light of the teachings of Igaue et al. because such was known to allow for the formation of leg holes while maintaining absorbency in the crotch region (column 2, lines 15-18; figure 1). Given the teachings of Tachibana et al. and the obvious modification provided by Igaue et al. it would have been inherent that the predetermined area lie at the protrusions because it was known through the teachings of Tachibana et al. that the shrinking force should be reduced at the crotch region and the incorporation of Igaue et al. provides that the absorber extends transversely through the crotch region by crossing the wearing article at the protrusions (figure 1).

Regarding claim 3, the method of claim 1 is disclosed as seen above.

Tachibana et al. fails to teach a method for adhering the elastic member for the waist under a stretched state because Tachibana et al. comprises a one component wearing article.

Igaue et al., as discussed above, teaches that it is advantageous to create a disposable wearing article from two sides (front strip member and back strip member)

because such can be cut from the same sheet to reduce waste. Igaue et al. further provides that the wearing article may be body fit around the waste by the use of a pair of tape fasteners (column 2, lines 65-67, figure 1). It is inherent that the members be fastened under a stretched state otherwise the purpose of having elasticity is nullified and a smaller size would be required to provide a snug fit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated a fastening means in view of Igaue et al. because the obvious incorporation of a two component (reduced trim) disposable wearing article must possess a fastening means to become integral so as for its function as underwear (or as a diaper) to be realized.

Regarding claim 4, the method of claim 1 is disclosed as seen above. As discussed above in claim 3 the incorporation of a fastening (i.e. adhering) means for securing the elastic members around a waist under the stretched state is an obvious feature taught by Igaue et al. (see claim 3).

Tachibana et al. fails to disclose an elastic member for around the legs.

Igaue et al. teaches an elastic member for around the legs (figure 1, reference 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further included the teachings of Igaue et al. in regards to an elastic member for around the legs because it would have been realized that such a feature would have allowed the wearing article to fit snugly without sliding from position.

Regarding claim 5, the teachings of Tachibana and Igaue et al. presented in claim 3 above provide for a fastening means to attach the two elastic strips bridged by an absorber and the method of utilizing the fastening means would have been an obvious progression, since it would have been well known to one of ordinary skill in the art how to utilize the tape fasteners.

Regarding claim 9, the method of claim 2 is disclosed as seen above.

Tachibana et al. fails to disclose a method for adhering the elastic member for the waist under a stretched state because Tachibana et al. comprises a one component wearing article.

Igaue et al., as discussed above, teaches that it is advantageous to create a disposable wearing article from two sides (front strip member and back strip member) because such can be cut from the same sheet to reduce waste. Igaue further provides that the wearing article may be body fit around the waste by the use of a pair of tape fasteners (column 2, lines 65-67, figure 1). It is inherent that the members be fastened under a stretched state otherwise the purpose of having elasticity is nullified and a smaller size would be required to provide a snug fit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated a fastening means in view of Igaue et al. because the obvious incorporation of a two component (reduced trim) disposable wearing article must possess a fastening means to become integral so as for its function as underwear (or as a diaper) to be realized.

Regarding claim 10, the method of claim 2 is disclosed as seen above. As discussed above in claim 3 the incorporation of a fastening (i.e. adhering) means for securing the elastic members around a waist under the stretched state is an obvious feature taught by Igaue et al. (see claim 3).

Tachibana et al. fails to disclose an elastic member for around the legs.

Igaue et al. teaches an elastic member for around the legs (figure 1, reference 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further included the teachings of Igaue et al. in regards to an elastic member for around the legs because it would have been realized that such a feature would have allowed the wearing article to fit snugly without sliding from position.

Regarding claim 11, the method of claim 2 is disclosed as seen above. The teachings of Tachibana and Igaue et al. presented in claim 9 above provide for a fastening means to attach the two elastic strips bridged by an absorber and the method of utilizing the fastening means would have been an obvious progression, since it would have been well known to one of ordinary skill in the art how to utilize the tape fasteners.

Regarding claim 14, the method of claim 1 is disclosed as seen above. The limitations of claim 14 are also substantially disclosed in claim 2 as seen above. The difference lies wherein areas of reduced shrinkage are desired at the protrusions of the first elastic strip member and the recesses of the second elastic strip member.

Tachibana et al. discloses that reducing the shrinking force reduces/eliminates wrinkles that may lead to an unfavorable appearance ([0028]).

Although it is not specifically disclosed in the teachings above (as seen in claim 2) to utilize a reduced shrinkage area at the protrusions of the first elastic strip member and the recesses of the second elastic strip member, it would have been an obvious design choice since it is known that a decreased shrinking force reduces unfavorable wrinkles, and any locality (protrusion/recesses) is equally applicable towards having reduced shrinkage and an otherwise increased appearance.

Regarding claim 15, the method of claim 14 is disclosed as seen above.

Tachibana et al. fails to disclose a method for adhering the elastic member for the waist under a stretched state because Tachibana et al. comprises a one component wearing article.

Igaue et al., as discussed above, teaches that it is advantageous to create a disposable wearing article from two sides (front strip member and back strip member) because such can be cut from the same sheet to reduce waste. Igaue further provides that the wearing article may be body fit around the waste by the use of a pair of tape fasteners (column 2, lines 65-67, figure 1). It is inherent that the members be fastened under a stretched state otherwise the purpose of having elasticity is nullified and a smaller size would be required to provide a snug fit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated a fastening means in view of Igaue et al. because the obvious incorporation of a two component (reduced trim) disposable wearing article must possess a fastening means to become integral so as for its function as underwear (or as a diaper) to be realized.

Regarding claim 16, the method of claim 14 is disclosed as seen above. As discussed above in claim 3 the incorporation of a fastening (i.e. adhering) means for securing the elastic members around a waist under the stretched state is an obvious feature taught by Igaue et al. (see claim 3).

Tachibana et al. fails to disclose an elastic member for around the legs.

Igaue et al. teaches an elastic member for around the legs (figure 1, reference 12).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further included the teachings of Igaue et al. in regards to an elastic member for around the legs because it would have been realized that such a feature would have allowed the wearing article to fit snugly without sliding from position.

Regarding claim 17, the method of claim 14 is disclosed as seen above. The teachings of Tachibana and Igaue et al. presented in claim 15 above provide for a fastening means to attach the two elastic strips bridged by an absorber and the method of utilizing the fastening means would have been an obvious progression, since it would have been well known to one of ordinary skill in the art how to utilize the tape fasteners.

11. Claims 6, 7, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachibana et al. (US 2002/0046802 A1) in view of Igaue et al. (US 5,858,151) as applied to claims 1, 2 and 14 above, and further in view of Kitaoka et al. (US 5,342,342).

Regarding claims 6, 12 and 18, the methods of claims 1, 2 and 14 are disclosed as seen above.

Tachibana et al. in view of Igaue et al., however, fails to disclose the use of flaps located at opposite sides of the absorber.

Kitaoka et al. teaches a disposable diaper using flaps on opposing sides of an area identified by having a liquid-absorbent core (i.e. absorber) (figure 1; column 2, lines 42-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tachibana et al. in view of Igaue et al. to further include flaps on opposing sides of the absorber further in view of Kitaoka because such was known to facilitate the absorption into the absorbing layer by utilizing liquid-resistant flaps that create sloped side walls for further guidance (abstract, column 2, lines 10-22).

Regarding claim 7, the method of claim 1 is disclosed above. Furthermore, the teachings seen above in the discussion of claim 6 provide that utilizing standing flaps at opposing ends of an absorbing layer are an obvious incorporation.

Tachibana et al. and Igaue et al. further in view of Kitaoka et al. fail to teach the flaps further being twisted.

It is recognized by the examiner that such is a design choice (i.e. twisting), which as disclosed does not teach any new functionality over conventional flaps so it would have been reasonably concluded by one of ordinary skill in the art at the time the invention was made that the flaps of Kitaoka et al. would perform substantially the same function.

12. Claims 8, 13 and 19, *as best understood by the examiner*, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tachibana et al. (US 2002/0046802 A1) in

view of Igaue et al. (US 5,858,151) as applied to claims 1, 2 and 14 above, and further in view of Ando et al. (US 5,370,634).

Regarding claims 8, 13 and 19, the methods of claim 1, 2 and 14 are disclosed as seen above. As discussed above, Igaue et al. teaches an elastic member for around the legs (figure 1, reference 12).

Tachibana et al. in view of Igaue et al., however, fails to disclose the use of an elastic member for around the legs whereby said elastic member is formed within a groove along the length of the absorber.

Ando et al. teaches the use of an elastic member for around the legs whereby said elastic member is formed within a groove along the length of the absorber (figure 5, reference 2 is the absorber and reference 9 is the elastic member).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Tachibana et al. in view of Igaue et al. to further include an elastic member for around the legs whereby said elastic member is formed within a groove along the length of the absorber further in view of Ando et al. because such a feature would have been recognized as providing a snug fit around the leg at the outermost portion of the article that is to contact the leg.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ochi et al. (US 5,110,386), Thorson et al. (US 6,979,380 B2) and Buell et al. (US 5,569,234).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael N. Orlando whose telephone number is (571)-270-5038. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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